

Statement of Work - AES Contract
Five-Year Review/Phase II Remedy Evaluation
Bunker Hill Mining and Metallurgical Complex Superfund Site

I. PURPOSE

The contractor shall complete work associated with the following tasks:

Preparation of the 2005 Five Year Review for the Bunker Hill Mining and Metallurgical Complex Superfund Site, to include the Non-Populated Areas of Operable Unit 2, the Coeur d'Alene Basin areas of Operable Unit 3 (to include all removal actions and responsible party actions), the Coeur d'Alene Lake, Spokane River, and to incorporate information for Operable Unit 1.

Box Monitoring Assistance/Phase II evaluation of water quality improvements for the completed remedy in the Non-Populated Areas. As the Box monitoring portion of the Five Year review report is completed, portions of the Phase II evaluation will also be completed, which is why these two tasks are combined in this scope of work.

II. BACKGROUND

The Non-Populated areas of Operable Unit 2 comprise a 21-square mile area centered around an inactive industrial mining and smelting site, includes the Cities of Kellogg, Page, Pinehurst, Smelterville, Wardner, Shoshone County, Idaho. The inactive several hundred acre industrial complex includes the Bunker Hill mine and mill, a lead and zinc smelter, and a phosphoric acid fertilizer plant. Other site features include the South Fork of the Coeur d'Alene River; an alluvial floodplain bordered by mountains, valleys, and gulches; and vegetated residential areas. In 1886, the first mill for processing lead and silver ore was constructed at the site. In later years, operations were expanded with the addition of a lead smelter; a blast furnace; an electrolytic zinc, sulfuric acid, phosphoric acid, and fertilizer plants. Onsite operations and disposal practices have caused the deposition of metals to offsite areas throughout the valley via airborne particulate deposition; alluvial deposition of tailings dumped in the river; and migration from onsite sources. Initially, most solid and liquid residue from the complex was discharged into the river. When the river flooded, these materials were deposited onto the valley floor and were leached into onsite soil and ground water. Although some industrial wastes were removed and disposed of offsite, thousands of tons of sludge, tailings, flue dust, and other wastes still remain onsite.

In 1973, a baghouse fire severely reduced air pollution control capacity at the lead smelter. A 1974 public health study and concurrent epidemiologic and environmental investigations concluded that atmospheric emissions of particulate lead from the active smelter were the primary sources of elevated blood lead levels in local children. In 1977, two tall stacks were added to disperse contaminants from the complex. Smelter operations ceased in 1981, but limited mining and milling operations continued onsite from 1988 to 1991. In 1989, EPA began a removal program to excavate lead-contaminated soil from affected residential properties. Several additional removal actions for source materials were also completed by various PRPs

from 1989 to 1991. The site has been divided into several sections for remediation based on population levels: the Hillside Area; Smelterville Flats; Central Impoundment Area (CIA), Page Pond, Smelter Complex; mine operations area, right-of-way within nonpopulated areas, and future development areas. A 1991 ROD addressed contaminated residential soil within the populated areas of the site, as OU1; provided for the excavation of soil with lead contamination above 1,000 mg/kg at 1,800 residential properties with disposal at an onsite repository, which was subsequently capped; and provided clean soil and sod to residents. This ROD addresses a final remedy for OU2, the nonpopulated areas of the site and those aspects of the populated areas not addressed by the 1991 ROD. The primary contaminants of concern affecting the soil, sediment, debris, ground water, and surface water are organics, including PCBs; metals, including arsenic and lead; and inorganics, including asbestos.

Chemical-specific soil excavation goals, which are based on health risk levels, include lead 1,000 mg/kg. Soil will be stabilized to meet RCRA LDR standards prior to disposal in CIA, which will be capped. Clean replacement soil will contain less than arsenic 100 mg/kg; cadmium 5 mg/kg; and lead 100 mg/kg. Chemical-specific sediment and debris clean-up levels were not specified; however, materials that cannot be reprocessed or recycled will be stabilized onsite prior to disposal in CIA. Chemical-specific ground water clean-up goals are based on SDWA MCLs and state standards and include arsenic 0.05 mg/l; cadmium 0.005 mg/l; lead 0.05 mg/l; and zinc 5 mg/l. Chemical specific surface water clean-up goals are based on federal water quality criteria under the CWA and include cadmium 0.0011 mg/l; lead 0.0032 mg/l; and zinc 0.110 mg/l. Institutional controls in the form of land use restrictions and other administrative restrictions will be implemented onsite for those areas where lead concentrations exceed 100 mg/kg.

The selected remedial action for this site includes revegetating the Hillside Area with less than 50 percent cover; contour terracing eroded hillsides and installing erosion-control structures; re-establishing riparian habitat and mitigating eroding tailings in Smelterville Flats; consolidating jig tailings into the CIA; establishing soil barriers in contaminated areas; relocating the A-1 gypsum pond sediment to CIA; capping the A-4 gypsum pond or consolidating it within CIA; removing materials from the 1982 smelter cleanup and consolidating these within the smelter closure; relocating the slag pile to either the CIA or Smelter Complex; removing tailings from the West Page Swamp and consolidating these in Page Pond and capping the pond with residential soil; improving the channels for Humboldt and Grouse creeks; reprocessing, recycling, or treating all principal threat materials, including copper flue dust using cement-based stabilization; removing and recycling salvageable items; demolishing and decontaminating onsite structures; capping the CIA, Lead Smelter, and Zinc Plant with low permeability caps; collecting and treating the CIA, Lead Smelter, and Zinc Plant leachate; treating acid mine drainage from the Bunker Hill mine in the Central Treatment Plant prior to discharge to the wetlands treatment system; closing the onsite solid waste landfills; continuing blood level monitoring for lead and high-efficiency vacuum loan program to site residents; cleaning all homes exceeding 1,000 ppm lead house dust after remedial actions are completed, and developing and implementing an interior dust monitoring program; recovering and treating the ground water in Government Gulch; constructing a passive wetland treatment system in Smelterville Flats and Pinehurst narrows to treat CIA seeps, pre-treated acid mine drainage, and ground water and surface water from Government Gulch, as well as leachate from the lead and zinc closure areas, using

absorption and precipitation of metals within an anaerobic substrate; constructing a second ground water system and passively treating upper zone ground water to meet discharge limits; abandoning and closing potentially contaminated wells, and providing an alternative source of water for any affected residences not serviced by the municipal water system; continually monitoring the air, surface water, ground water, and biological parameters at the site; and implementing institutional controls including land use restrictions to control future land use, and site access restrictions such as fencing.

In September 2002, the EPA issued the interim Record of Decision plan to cleanup mining contamination in Operable Unit 3 of the Bunker Hill Mining and Metallurgical Complex Superfund Facility. Operable Unit 3 is commonly known as the Coeur d'Alene Basin and includes areas within Shoshone, Kootenai, and Benewah counties in Idaho and Spokane and Stevens counties in Washington.

Mining within the Coeur d'Alene Basin began more than 100 years ago. Mining-related activities were concentrated in the Upper Basin. The Bureau of Land Management (BLM) has mapped more than 1,000 mining or milling-related features in the Upper Basin, not all of which are sources of contamination. Mining, milling, and smelting practices have resulted in substantial portions of the Basin containing elevated concentrations of metals that are potentially hazardous to humans and to plants and animals (collectively termed "ecological receptors"). The primary metals of concern include lead and arsenic for human health and cadmium, lead, and zinc for ecological receptors.

Mining-related activities in the Basin generated tailings (the part of the ore from which economical concentrations of metals cannot be recovered), waste rock (non-ore rock excavated from a mine), concentrates, and smelter emissions. These sources contain hazardous substances including arsenic, cadmium, lead, and zinc. In addition, the water that drains from many abandoned adits, as well as seeps, contains elevated levels of these metals.

Until 1968, most tailings were discharged directly into the South Fork or its tributaries. Since 1968, tailings have been impounded or placed back in the mines, and current mining practices contribute relatively little to the Coeur d'Alene River system compared to existing contamination resulting from pre-1968 practices. An estimated 62 million tons of tailings were discharged to streams prior to 1968. These tailings contained an estimated 880,000 tons of lead and more than 720,000 tons of zinc. Most of the tailings were transported downstream, particularly during high-flow events, and deposited as lenses of tailings or as tailings and sediment mixtures in the bed, banks, floodplains, and lateral lakes of the Upper and Lower Basins and in Coeur d'Alene Lake. Some fine-grained material washed through the lake and was deposited as sediment within the Spokane River flood channel. The estimated total mass and extent of contaminated materials (primarily sediments) exceeds 100 million tons dispersed over thousands of acres.

In addition to transport in water, mining waste was spilled from railroad cars during transport of ore and concentrates along the railroad lines, was used as fill material for construction of roads, railroads, and structures, and was transported as airborne dust.

Many cleanup actions have been conducted at source areas and at depositional areas throughout the Basin. These actions have occurred from 1989 to the present and have been conducted by the

mining companies, Union Pacific Railroad (UPRR), various state and federal agencies, and the Coeur d'Alene Tribe. The mining companies and government agencies have worked in concert on many of these actions. For example, cleanup activities have been conducted by the Silver Valley Natural Resource Trustees (SVNRT), a cooperative effort of the IDEQ and the mining companies. Many of the cleanup actions have taken place in the Bunker Hill Box, the site of some of the highest levels of contamination in the Basin. The results of that cleanup will reduce the time needed to achieve cleanup goals for the Basin and the potential for recontamination in downstream areas.

The ROD is the result of more than four years of collaboration and discussion among the various levels of government in the Basin and input from the people and communities affected by the contamination. Due to the very large size and complex nature of the Coeur d'Alene Basin, it was separated into the following four major components:

Human health risks in community and residential areas, including soil, drinking water, house dust, and aquatic food sources

1. Environmental risks in the Upper Basin and Lower Basin, including human health benefits for recreational and subsistence users
2. Coeur d'Alene Lake
3. Spokane River

The OU3 ROD for the Coeur d'Alene Basin includes an interim action that consists of a first increment of cleanup. It includes the complete remedy for protection of human health in the communities and residential areas of the Upper Basin and Lower Basin, as well as for the Spokane River upstream of Upriver Dam.

III. GENERAL

This is a fixed rate task order requiring the Contractor to propose the most appropriate and cost-effective procedures and methodologies using accepted engineering practices and controls. Throughout the performance on this task order, the Contractor will be responsible for performing services and providing products using the most cost-efficient mix of qualified personnel applicable to meet the needs of the task order.

The contractor shall furnish personnel, services, materials and equipment required to provide assistance and support for Bunker Hill Mining and Metallurgical Site. The following work breakdown structure shall be used for project scoping, scheduling, and technical and cost tracking and reporting

IV. TASKS

TASK 1 PROJECT PLANNING AND SUPPORT (PP)

This task includes efforts related to project initiation and support. Typical activities the contractor may be tasked to perform include but are not limited to:

- 1.1** Develop work plan and associated cost estimate (for work plan changes only)
- 1.2** Negotiate work plan and make necessary revisions as a result of EPA comments and/or negotiated agreements. (for work plan changes only)
- 1.3** Perform site specific project management (monitor costs, prepare Monthly Progress Report and Invoice).

TASK 2 - COMMUNITY INVOLVEMENT (CR)

The contractor shall assist EPA in developing a plan for involving the public in the Five Year Review process. At this time, it is anticipated that the document will be provided to the public for one comment period. Upon receipt of comments from the public, the contractor shall amend the document as directed by EPA.

The contractor shall plan and assist EPA in presenting the information contained in the Five Year Review document to the public. For planning purposes, the contractor should anticipate holding two public meetings and producing meeting materials (powerpoint presentation, poster boards and handouts) which summarize the Five Year Review process and latest results/conclusions.

TASK 3 - DOCUMENT REVIEW (DR)

This task includes work efforts to review documents and site files, at the direction of EPA to become knowledgeable with site activities that have occurred since completion of the last Five Year Review. Specific documents the contractor may be tasked to review include, but are not limited to, the following:

- Records of Decision (ROD) for OUs 1, 2 and 3 of the Coeur d'Alene Basin.
- ROD Summaries
- Explanation of Significant Differences (two) for the Non-Pop ROD
- ROD Amendments (two) for the Non-populated areas
- Consent Decrees
- Close-out Reports/As-Built for the CIA, lower Government Gulch, various areas capped around the site (lumber yard, truck stop, recycle yard, road shoulders in the old facility, Bunker Creek and UPRR trail areas, Deadwood Gulch areas, etc), Central Treatment Plant emergency actions.
- Operation and Maintenance Manuals and Reports produced by the State and EPA
- Surface Water and Groundwater Monitoring data and reports such as the annual State Data Summary Reports, Event Flow Monitoring Report, Low-Flow Monitoring Report
- Non-Populated Area Five Year Review (2000)

Files pertaining to removal actions performed in the Basin and Box areas

TASK 4 - STANDARDS (ARAR) REVIEW (SR)

This task includes a review of ARARs in the RODs and the ROD Summaries, and a review of Federal, State or Local regulations related to public health or the environment, promulgated subsequent to the last Five Year Review, for changes in standards.

TASK 5 - SITE VISIT/INTERVIEWS (SV)

This task includes work efforts to interview, where appropriate, previous site staff/management, nearest residents to the site, Potentially Responsible Parties (PRPs), State and Local Government personnel, facility operating staff, O&M contractors, or other personnel associated with the selection and implementation of the Action. EPA personnel shall be informed of all interviews and may be present at interviews. At interviews, contractor employees must identify themselves as employees of an EPA contractor. At a minimum, the contractor shall interview the following people or groups: State employees familiar with construction and cleanup work that occurred after the last Five Year Review report, State contractors involved in Box Monitoring and completion of cleanup work since the last Five Year Review, UPRR contractors involved in ongoing O&M of the recreational trail through the Box, Stauffer Chemical contractors involved in ongoing O&M of the A-4 pond, and Corps of Engineers staff familiar with cleanup activities since the last Five Year Review.

TASK 6 - SITE INSPECTION/TECHNOLOGY REVIEW (SI)

This task is split into two segments: Five Year Review and Site Monitoring Assistance

Five Year Review

- 6.1** This subtask includes work efforts to conduct a management system review and technical compliance evaluation of specific elements of the Action required to protect human health and the environment. The scope of the site inspection shall include all components of the source control/groundwater remediation to determine whether each element of the RODs has been implemented and whether each component of the remedy is operating in accordance with its intended function.

Box Monitoring Assistance

- 6.2 Attend Regular Box Monitoring Meetings and Coeur d'Alene Basin Technical Leadership Group Meetings** - The contractor should attend the Bunker Hill Box Monitoring Meetings which are scheduled throughout the year on, or about, every other month. The meetings should be attended by the project manager and staff appropriate for agenda discussion. In addition to these meetings, the contractor should attend the Basin Technical Leadership Group Meetings and any project focus team meetings (as appropriate) to enable coordination of the Box monitoring efforts with the Basin

monitoring efforts and to provide information to the Basin team on Box monitoring work.

- 6.3 Program Evaluation** - A Work Plan has been developed which outlines the approach for developing the Program Evaluation. This work plan has already undergone a review by the EPA team and needs to be finalized. The program evaluation, which identifies all aspects of the box water monitoring program should be developed and finalized. This document should include the basis for all sampling (to include locations, analytes, media, schedule, etc.) in order to form the basis for Five Year Review work, remedial effectiveness evaluations, Phase II assessments, etc. In addition, this monitoring plan should be updated annually.

Included in this subtask is monitoring well technical assistance. As the State contractor performs regular sampling, maintenance problems are identified for groundwater monitoring wells and provided to EPA and the State. At EPA's request, this list should be reviewed and a maintenance plan sufficient for the Corps to task the infrastructure contractor to perform the maintenance activities should be developed.

6.4 Data Management and Access

6.4.1 All the data that has been gathered for the Bunker Hill project has been gathered into one useable format. All future or additional data shall be uploaded into the SIMS system for use by the State and EPA technical team. At this point, most historic data has been electronically or manually entered into the database and the error-review is nearly complete. The contractor shall finish that data review. Additionally, the contractor shall continue to work with EPA staff in formatting and uploading all Bunker Hill data into STORET, EPA's national environmental monitoring database.

6.4.2 The contractor shall host, manage and update the database for all Box monitoring data via SIMs. Depending on the database size, it may be necessary for the contractor to upgrade the server capacity. The contractor should evaluate this need and develop a plan for mitigating any problems with capacity.

- 6.5 Conceptual Site Model** - The contractor shall develop a draft of the OU2 conceptual site model, consistent with ongoing discussions of the Box monitoring team. This document should include a description of the site, the history of contamination and cleanup actions as well as hydrogeologic and geologic information (consistent with the outlines generated by CH2MHill and coordinated with Dale Ralston). These work efforts should be finalized and should provide documentation for the Box monitoring program.

- 6.6 Phase II Evaluation/Source Identification** - The contractor shall evaluate the information gathered through Box monitoring for determining the effectiveness of remedial actions and identification of ongoing source areas of concern. The contractor shall develop a work plan which lays out the strategy for commencing these Phase II

activities. This work should consider the current ROD requirements for groundwater and seep collection and treatment. This Phase II evaluation work will form the basis of future decision documents (ESDs, ROD amendments) for the Box.

- 6.7 Smelter Closure Observation Method Evaluation** - The smelter closure area remediation identified the Observational Method for evaluating the effectiveness of the remedy. To date, not enough information has been collected to determine whether the remedy is effective, based on the Observational Method. The Observational Approach should be reviewed for its ability to evaluate the smelter closure remedy in light of the new information gained through the Box monitoring data collection and assessment work. The contractor shall review and finalize the review with a list of recommended changes to the existing approach.

Task 7 - FIVE-YEAR REVIEW REPORT (FR)

This task includes work efforts related to the preparation of a five-year review report for the Bunker Hill Site. This evaluation will identify what components of the remedies are completed, what components are not complete, and whether the completed remedies satisfies the completion requirements and are protective of human health and the environment. This task includes all draft and final reports, including a responsiveness summary to comments. The contractor shall use the first Five Year Review report as a basis for format and content for this next Five Year Review. The report shall include a discussion of the following:

- 7.1** Background information including an introduction, statement of objectives and a summary providing the context for the entire report. This will include a discussion of the different components of work: the Populated Areas, the Non-Populated Areas and the Coeur d'Alene Basin. The document shall include the Populated Areas review, which is being conducted by a separate entity. Finally, a section should be added which summarizes the latest Coeur d'Alene Basin (Operable Unit 3) ROD and the approach to the Coeur d'Alene Lake.

This background should also include a summary of any additional decision documents that have been produced since completion of the first Five Year Review and a summary of the State Superfund Contract and its amendments. Finally, a review of all ARARs should be completed to include any changes or new ARARs generated since the last Five Year Review.

- 7.2** Description of site conditions including a summary of all remedy components and the status of each component. The contractor should not duplicate information generated in the last Five Year Review document, but should expand that information with all that has occurred since the last Five Year Review. This section should also be expanded to include the Coeur d'Alene Basin ROD, (including all removal actions) and Coeur d'Alene Lake. This section should also include an evaluation of how the different components of the remedy satisfy the existing and newly identified ARARs.

- 7.3** The contractor should provide a summary of the above evaluation for each component of all remedies. Included in this summary should be the identification of any outstanding components of the remedies, any deficiencies in the existing remedies and how the existing and newly identified ARARs are being attained or not. The contractor should use the format of the last Five Year Review for this summary.
- 7.4** Preparation of review summary table including technology recommendations, requirements for recommendation implementation and a general statement of protectiveness.
- 7.5** Summary of outstanding components of work required to meet the ROD (ESDs, ROD amendments included) requirements to serve as the basis for subsequent five-year reviews. This section should also include a list of recommended actions that may or may not be part of the original ROD, ESDs or ROD amendments that should be evaluated by the technical team. These actions may consist of the following (but are not limited to): recommended cleanup actions, recommended decision documents, recommended monitoring, changes to existing remedies, etc.

TASK 8 - WORK ASSIGNMENT CLOSE OUT (CO)

This task includes efforts related to work assignment close out. Typical activities the contractor may be tasked to perform include but are not limited to:

- 8.1** Return of documents to EPA or other document repositories.
- 8.2** File duplication, distribution, and storage.
- 8.3** File archiving to meet Federal Records Center requirements.
- 8.4** Use of microfiche, microfilm, or other EPA-approved data storage technology.
- 8.5** Prepare final cost estimate in accordance with Regional guidance or other procedures as specified in the task order.

V. PERIOD OF PERFORMANCE

This task order shall be completed by June 30, 2006.

VI. SCHEDULE OF DELIVERABLES/MILESTONES

TASK	DELIVERABLE	# OF COPIES	DUE DATE
1	Work Plan	3	15 days after receipt of Task Order
1	Revised Work Plan	3	7 days after receipt of EPA comments

1	Monthly Progress Reports	1	As required
6	Monitoring Evaluation Plan	3	October 15, 2004
6	Observational Approach Evaluation	3	October 15, 2004
6	Phase II Evaluation	3	March 15, 2005
7	Draft Five Year Review	6	February 18, 2005
7	Public Review version of Five Year Review	6	April 20, 2005
7	Draft Responsiveness Summary	6	August 15, 2005
7	Final Five Year Review and Responsiveness Summary	6	September 15, 2005

VII. PERFORMANCE/ACCEPTANCE CRITERIA

The contractor's deliverables will be reviewed by the government for acceptability. Unacceptable deliverables will be returned to the contractor with comments and directions for necessary corrections or rework which may be applicable.

Cost and Performance

Work defined under this Task Order will be completed within the established Work Plan costs and schedules.

Written material will be reviewed for the following subjective characteristics:

4. The work product submitted will reflect a good grasp and understanding of the technical issues, thorough knowledge of the subject matter and analysis of all the information and data available.
5. All written work products are to consist of high technical quality material based on sound science and good professional judgement.
6. All deliverables should be grammatically well-written with few typographical errors, and the need for revisions held to a minimum.

7. All reviews and activities shall be conducted in accordance with EPA policies and regulations.

Monitoring Technique

EPA will review technical deliverables and monthly invoices for adherence to performance standard requirements.

Contractor Incentive

The Contractors performance will be assessed informally by the TOPO during the execution of the work. A final performance assessment will be developed upon completion and will be used in the National Institute of Health's contractor evaluation system and on the task order performance evaluation.

The contractor's performance evaluation(s) will be conducted as stated in the contract under Section H - Special Contract Requirements, Clause H.5 - Contractor Performance Evaluations (EPAAR 1552.209-76) (May 1999).

VIII. EPA CONTACTS

Work Assignment Manager: Anne Dailey(206) 553-2110
Project Officer: Joanne Shea (206) 553-0310
Contracting Officer: Paul Anthamatten (913) 551-7729